

Hybrid Propulsion Technology for Robotic Science Missions, Phase I

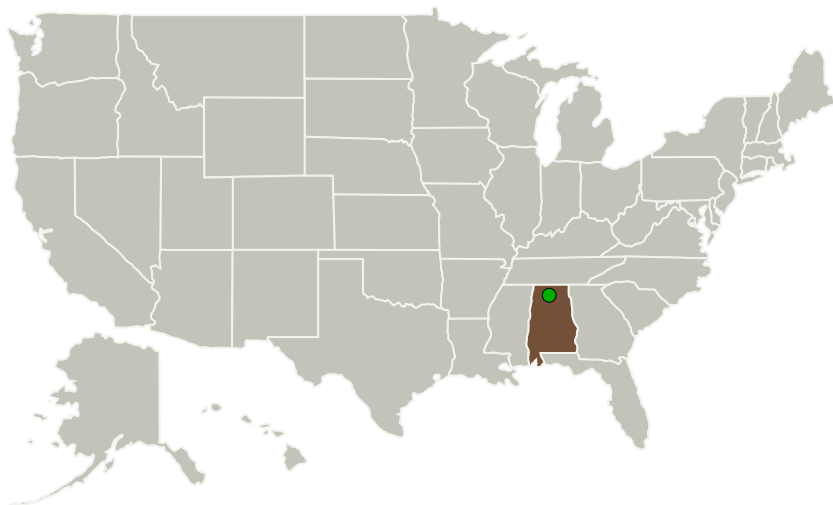
Completed Technology Project (2017 - 2017)



Project Introduction

C3 Propulsion's Hybrid Propulsion Technology will be applied to a NASA selected Sample Return Mission. Phase I will demonstrate Proof-of-Principle and Phase II will design, fabricate, and demonstrate a flight-like propulsion system for that application. HPT is non-toxic, safe, and has energy management (throttleable or pulse width modulated) capabilities. It is expected to be able to operate in the cold temperature of Mars and outer planet moons. Its simple design decreases risk, reduces size, and mass, and increases reliability. It has high volume and density specific impulses and is expected to increase performance and lower costs. It has been developed under MDA SBIR programs and is currently at a TRL level of 3.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Streamline Automation, LLC	Lead Organization	Industry	Huntsville, Alabama
● Marshall Space Flight Center(MSFC)	Supporting Organization	NASA Center	Huntsville, Alabama



Hybrid Propulsion Technology for Robotic Science Missions, Phase I Briefing Chart Image

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Primary U.S. Work Locations

Alabama

Images



Briefing Chart Image

Hybrid Propulsion Technology for Robotic Science Missions, Phase I
Briefing Chart Image
(<https://techport.nasa.gov/image/136751>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Streamline Automation, LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

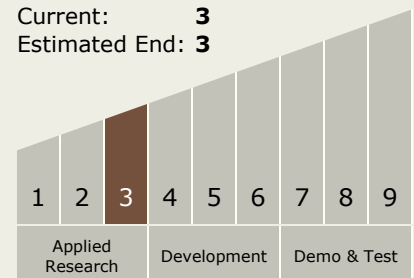
Carlos Torrez

Principal Investigator:

William M Chew

Technology Maturity (TRL)

Start: 3
Current: 3
Estimated End: 3





Technology Areas

Primary:

- TX01 Propulsion Systems
 - └ TX01.1 Chemical Space Propulsion
 - └ TX01.1.5 Hybrids